

IN THE CLAIMS:

1. (Currently amended) Device for cooling power electronics (9), comprising:
a support plate (21) on which the power electronics are mounted,
a first pressed metal plate including liquid circulation channels press-formed in said first metal plate;
wherein ~~characterised in that it comprises~~ a cooling circuit (22) for cooling by circulation of a liquid is defined by said liquid circulation channels mounted ~~under~~ directly or indirectly to the support plate.
2. (Currently amended) Cooling device according to claim 1, ~~characterised in that~~
wherein the cooling circuit (22) comprises a liquid inlet channel (29), a liquid outlet channel (30) and said circulation channels (28) for the circulation of the liquid between the inlet channel and the outlet channel.
3. (Currently amended) Cooling device according to claim 2, ~~characterised in that~~
wherein the cooling circuit comprises deflectors (31) situated in the liquid circulation channels.
4. (Currently amended) Cooling device according to claim 2, ~~characterised in that~~
wherein the cooling circuit comprises turbulators (32) distributed in the liquid circulation channels.
5. (Cancelled).

6. (Currently amended) Cooling device ~~according to claim 1~~ for cooling power electronics (9), comprising:

a support plate (21) on which the power electronics are mounted,

a first pressed metal plate including liquid circulation channels press-formed in said first metal plate;

wherein a cooling circuit (22) for cooling by circulation of a liquid is defined by said liquid circulation channels fixed directly to the support plate, said circulation channels facing the support plate to provide a closed-loop fluid path extending between an inlet and an outlet of the cooling circuit,

~~characterised in that wherein~~ the first pressed metal plate having the cooling circuit is fixed under to the support plate by brazing.

7. (Currently amended) Cooling device according to claim 5 ~~1~~, ~~characterised in that the cooling circuit comprises~~ further comprising at least one second intermediate metal plate (24) fixed between the support plate (21) and the first pressed metal plate (23).

8. (Currently amended) Cooling device according to claim 7, ~~characterised in that~~ wherein the second metal plate is flat, brazed to the first pressed metal plate ~~(21) (23)~~.

9. (Currently amended) Cooling device according to claim 1, ~~characterised in that it comprises~~ further comprising a metal manifold (27) connected to the cooling circuit.

10. (Currently amended) Cooling device according to claim 5 ~~1~~, ~~characterised in that~~
~~wherein the first metal plate is made of aluminum~~ aluminium.

11. (Currently amended) Cooling device according to claim 6, ~~characterised in that it~~
~~comprises at least one plate comprising~~ wherein at least one of said support plate (21) and said
first metal plate (23) comprises a plating by co-lamination.

12. (Currently amended) Cooling device according to claim 5 ~~1~~, ~~characterised in that~~
~~wherein~~ the pressed plate (23) is fixed directly by brazing ~~under to~~ the support plate (21).

13. (Currently amended) Cooling device according to claim 12, ~~characterised in that~~
~~wherein at least one of~~ the pressed plate (23) ~~or and~~ the support plate (21) ~~is a plate comprising~~
comprises plating by co-lamination.

14. (Currently amended) Cooling device according to ~~the preceding claim~~ claim 13,
~~characterised in that~~ wherein the pressed and support plates (21, 23) are made from aluminium
aluminum.

15. (Currently amended) Cooling device according to claim ~~12~~ 9, ~~characterised in that~~
~~wherein~~ the support plate (21) carries the ~~manifolds~~ manifold.

16. (Currently amended) Method of manufacturing a power electronics cooling device, characterised in that it comprises the following operations comprising the steps of:

- producing a cooling circuit (22) by pressing a first metal plate (23) to integrally and homogenously form liquid circulation channels (28) in said first metal plate,
- brazing the cooling circuit on a support plate (21) for the power electronics (9),
- brazing, on the cooling circuit, an inlet and outlet manifold (27) for a cooling liquid to provide a closed-loop fluid path extending between an inlet channel and an outlet channel of the manifold (27).

17. (Currently amended) Method according to claim 16, ~~characterised in that~~ wherein the ~~production of step of brazing~~ the cooling circuit comprises an operation of brazing the first plate (23) under a second intermediate metal plate (24) and brazing the second plate (24) under the support plate (21).

18. (Currently amended) Method according to claim 16, ~~characterised in that~~ wherein the step of producing the cooling circuit by pressing of the first metal plate (23) comprises the pressing of ~~circulation channels (28) and/or~~ defectors (31) and/or turbulators (32) into the first metal plate (23).

19. (Currently amended) Alternator or alternator/starter for a motor vehicle, characterised in that it comprises comprising a power electronics cooling device according to claim 1.

20. (Currently amended) Cooling device according to claim 3, ~~characterised in that~~
wherein the cooling circuit further comprises turbulators (32) distributed in the liquid circulation channels.

21. (Currently amended) Cooling device according to claim 10, ~~characterised in that it~~
~~comprises wherein~~ at least one of said support plate and said first metal plate comprising a
comprises plating by co-lamination.

22. (New) Device for cooling power electronics (9), comprising:

a support plate (21) on which the power electronics are mounted, said support plate (21)
being planar;

a first plate including at least two liquid circulation channels formed in said first metal
plate, said at least two circulation channels extending in different directions,

wherein a cooling circuit (22) for cooling by circulation of a liquid is defined by said
liquid circulation channels.

23. (New) Device for cooling power electronics (9), comprising:

a support plate (21) with a first side on which power electronics are mounted;

a first plate including at least two liquid circulation channels formed in said first metal
plate;

at least one manifold extending on the first side of the support plate (21),

wherein a cooling circuit (22) for cooling by circulation of a liquid is defined by said
liquid circulation channels.